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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/777,441

02/12/2004

Stephen W. Smith

5405-305

4786

20792 7590 03/27/2007  
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EXAMINER

JAWORSKI, FRANCIS J

ART UNIT

PAPER NUMBER

3768

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
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3 MONTHS

03/27/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

ED

**Office Action Summary**

Application No.

10/777,441

Applicant(s)

SMITH ET AL.

Examiner

Jaworski Francis J.

Art Unit

3768

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 7/8, 11/29/04.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1 - 40 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-40 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12 February 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>7/8, 11/29/04</u> . | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1 – 3, 9-10, 17 – 19, 25-26 are rejected under 35 U.S.C. 102(b) as being anticipated by Hayakawa (US6146329).

Hayakawa et al is directed to a method and structure for real-time three-dimensional needle tip and shaft visualization in order to view the needle when out of an initial insertion plane, see col. 3 lines 23 – 36, col. 14 lines 46 – 53, figs. 19-20 and cols. 28 – 29 bridging as exemplary, while the transducer array or single transducer (col. 33) is scanned, and using formed transmit and receive beams to generate an image therefrom.

[Note that for purposes of this rejection, the fact that applicants are claiming the viewed shaft as 'oscillating' is accorded no patentable weight, since no step of oscillating is recited. A needle tip may be said to be oscillating if incidentally rotated or wavered in the fingers of the user or when moved by natural pulsatility oscillations within the body.]

Claims 14 – 16 are rejected under 35 U.S.C. 102(b) as being anticipated by Cockburn et al (US5549112) which teaches that an active locator vibrator may comprise

sheath 2, shaft 1, source and leads 7, 8 and coupler 4,5,6 including hollow tube 4 connected to the proximal portion of the sheath2.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1 – 3, 6 – 7, 9 – 10, 17 – 19, 22-23, 25 - 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hayakawa et al in view of Powers (US5095910).

The former is applied against method and structure as above, with the further note that Hayakawa et al invoke Powers as an implementation technique for providing Doppler oscillation of the needle shaft for detection above a threshold, see col. 3 lines 43 – 54 and col. 28 line 40 – 29 line 20. [Hence this rejection, in contradistinction to the

above rejection portion incorporates the totality of the Powers teaching in supplement to Hayakawa et al's mention thereof.] Hayakawa et al otherwise displace the region of interest

Claims 4, 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hayakawa et al in view of Powers as applied to claim 2 above, and further in view of Maslak et al (US5014710) since col. 3 lines 44 – 46 of the latter evidences that it was well-known to attenuate a static B-scan portion when viewing in the Doppler mode.

Claims 5, 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hayakawa et al in view of Powers as applied to claim 2 above, and further in view of Smith et al (US6066096) since the latter teaches in col. 12 lines 33 – 40 that it was heretofore conventional to line up a cross-sectional scanner slice plane with the needle in order to visualize its trajectory..

Claims 11 – 12, 27 - 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hayakawa et al in view of Powers as applied to claim 2 above, and further in view of Stringer et al (US6755789) or Nelson et al (US5158088) insofar as Stringer notes in col. 1 line 42 and col. 2 line 18 that audible guidance as an adjunct to visualization of the needle tip on approach would have been well known in the art, and Nelson et al otherwise proposes that an audible indication be given to announce approach to the viewing plane. [Claim 27 line 3 typo --enable – should be corrected.]

Claims 29 – 31, 34 –35, 37 - 38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hayakawa et al alone or further in view of Powers as applied to claims 1 - 3 above, and further in view of Zhao et al (US6524247) insofar as the latter

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evidences that it would have been obvious to use a computer program product to perform a routine associated with a protocol for setting up a special viewing region for viewing a biopsy needle progression in an ultrasound image set.

Claim 32 is rejected under 35 U.S.C. 103(a) as being unpatentable over the references as applied to claim 30 above, and further in view of Maslak as the latter was argued above with respect to analogous limitations.

Claim 33 is rejected under 35 U.S.C. 103(a) as being unpatentable over the references as applied to claim 30 above, and further in view of Smith et al, as the latter was argued against analogous limitations above.

Claims 39 – 40 are rejected under 35 U.S.C. 103(a) as being unpatentable over the references as applied to claim 30 above, and further in view of Stringer et al or Nelson, for reasons as set forth above.

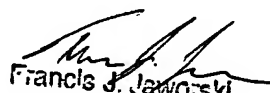
***Allowable Subject Matter***

Claims 8, 13, 24, 36 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Any inquiry concerning this communication should be directed to Jaworski Francis J. at telephone number 571-272-4738.

FJJ:fjj

3-17-07

  
Francis J. Jaworski  
Primary Examiner